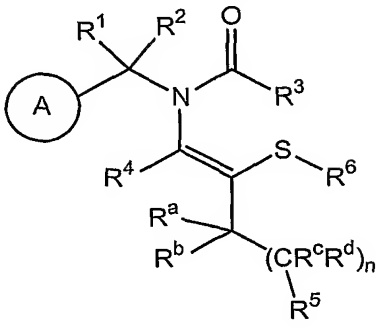
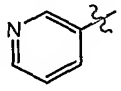
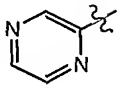
What is claimed is:

1. A compound of formula **I**:



I

or a pharmaceutically acceptable derivative thereof, wherein:

ring A is a heteroaryl selected from  or  ;

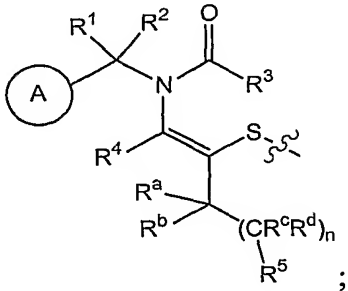
each R^1 and R^2 is independently H, alkyl, or fluoroalkyl;

R^3 is H, alkyl, fluoroalkyl, aralkyl, carbocyclylalkyl, heterocyclyl, carbocyclyl, heterocyclylalkyl, aryl, heteroaryl, heteroaralkyl, -C(O)R, -OR, $-(CH_2)_{1-6}OR$, $-(CH_2)_{1-6}N(R)_2$, $-N(R)_2$, or -C(H)(OR)R;

R^4 is H, alkyl, fluoroalkyl, $-CO_2R$, $-CON(R)_2$, carbocyclyl, carbocyclylalkyl, heteroaryl, or heterocyclyl;

R^5 is $-OR^7$ or $-NR^8R^9$;

R^6 is -C(O)R, -C(S)R, -C=C-C(O)R, -SR, -S-W-OR^7, M, or Y;

Y is  ;

R^7 is R°, -C(O)R, $-C(O)N(R)_2$, -C(O)OR, $-(CH_2)_{1-6}$-C(O)R, $-PO_3M_x$, -P(O)(alkyl)OM', $-(PO_3)_2M_y$, carbocyclyl, aryl, heterocyclyl, heteroaryl, carbocyclylalkyl, aralkyl, heterocyclylalkyl, heteroaralkyl, or a tumor-targeting moiety;

x is 1 or 2;

y is 1, 2 or 3;

each M is independently H, Li, Na, K, Mg, Ca, Mn, Co, Ni, Zn, or alkyl;

M' is H, Li, Na, K, or alkyl;

R^8 is H or alkyl;

R^9 is H, alkyl, -C(O)R, -C(O)N(R)$_2$, -C(O)OR, -SO_2R, -SO_2N(R)$_2$, carbocyclyl, aryl, heterocyclyl, heteroaryl, carbocyclylalkyl, aralkyl, heterocyclylalkyl, heteroaralkyl or a tumor targeting moiety;

each R^a and R^b is independently H, OR°, alkyl, or fluoroalkyl;

each R^c and R^d is independently H, alkyl, or fluoroalkyl;

n is 0-4;

W is alkylene, arylene, heteroarylene, carbocyclylene, or heterocyclylene;

R° is H or alkyl; and

R is R°, carbocyclyl, aryl, heterocyclyl, heteroaryl, carbocyclylalkyl, aralkyl, heterocyclylalkyl, or heteroaralkyl.

2. The compound of 1, wherein R^6 is Y.

3. The compound of 1, wherein said compound has one or more features selected from the group consisting of:

i) R^1, R^2 and R^4 are independently H, C_{1-6} alkyl or fluoro(C_{1-6} alkyl);

ii) R^3 is H, alkyl, fluoroalkyl, -$(CH_2)_{1-6}$OR, -$(CH_2)_{1-6}$N(R)$_2$, -NR°C(O)R, -C(O)R, -C(H)(OR)R, aralkyl, heterocyclyl, heterocyclylalkyl, heteroaryl, or heteroaralkyl;

iii) R^6 is -C=C-C(O)R, -SR, -S-W-OR^7, M or Y;

iv) R^7 is H, alkyl, -C(O)R, -PO_3M_x, -$(PO_3)_2M_y$, -P(O)(alkyl)OM', -C(O)N(R)$_2$, -C(O)OR, or a tumor-targeting moiety; or R^9 is H, alkyl, -C(O)R, -C(O)N(R)$_2$, -C(O)OR, -SO_2R, 5-membered heterocyclyl, 5-membered heteroaralkyl, or a tumor-targeting moiety; and

v) n is 1.

4. The compound of 3, wherein:

i) R^1, R^2 and R^4 are independently H, C_{1-6} alkyl or fluoro(C_{1-6} alkyl);

ii) R^3 is H, alkyl, fluoroalkyl, -$(CH_2)_{1-6}$OR, -$(CH_2)_{1-6}$N(R)$_2$, -NR°C(O)R, -C(O)R, -C(H)(OR)R, aralkyl, heterocyclyl, heterocyclylalkyl, heteroaryl, or heteroaralkyl;

iii) R^6 is -C=C-C(O)R, -SR, -S-W-OR^7, M or Y;

iv) R^7 is H, alkyl, -C(O)R, -PO_3M_x, -$(PO_3)_2M_y$, -P(O)(alkyl)OM', -C(O)N$(R)_2$, -C(O)OR, or a tumor-targeting moiety; or R^9 is H, alkyl, -C(O)R, -C(O)N$(R)_2$, -C(O)OR, -SO_2R, 5-membered heterocyclyl, 5-membered heteroaralkyl, or a tumor-targeting moiety; and

v) n is 1.

5. The compound of 3 or 4, wherein R is R^o, carbocyclyl, aryl, heteroaryl, heterocyclyl, aralkyl, heterocyclylalkyl or heteroaralkyl.

6. The compound of 5, wherein R^o is H or C_{1-6} alkyl optionally substituted with halo, hydroxy or amino.

7. The compound of 3 or 4, wherein said compound has one or more of the features selected from the group consisting of:

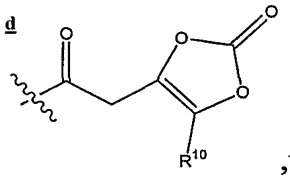
i) ring A is optionally substituted with -OC(O)$R^\dagger$, halo, -$OR^\dagger$, -CF_3, -OCF_3, -SCF_3, -$SR^\dagger$, -$R^\dagger$, -$NR^\dagger C(O)R^\dagger$, -$CO_2R^\dagger$, -NO_2, -N$(R^\dagger)_2$, -CN, -C(O)$R^\dagger$, -C(O)N$(R^\dagger)_2$, -SO_2N$(R^\dagger)_2$, -$NR^\dagger CO_2R^\dagger$, -C(O)C(O)$R^\dagger$, -OC(O)N$(R^\dagger)_2$, -S(O)$_t R^\dagger$, -$C(O)CH_2C(O)R^\dagger$, -$NR^+SO_2R^\dagger$, or -C(=S)N$(R^\dagger)_2$; and $R^\dagger$ is 3-6 membered unsubstituted cycloalkyl, phenyl, benzyl, naphthyl, pyridyl, or C_{1-6} alkyl optionally substituted with halo;

ii) R^3 is H, C_{1-6} alkyl, -$(CH_2)_{1-6}OR^o$ or -$CH(OR^o)R^o$;

iii) R^6 is -C=C-C(O)R, -SR, -S-W-OR^7 or Y; and

iv) R^8 is H or C_{1-6} unsubstituted alkyl.

8. The compound of 7, wherein R^7 or R^9 is a polysaccharide, -$[C(O)CH(R)N(R)]_{2-3}$-R, an antibody, or



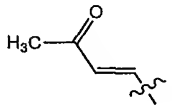
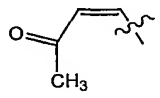
,wherein R^{10} is H, alkyl, or aryl.

9. The compound of 7, wherein said compound has one or more of the features selected from the group consisting of:

i) ring A is selected from the group consisting of **1**-**9**;

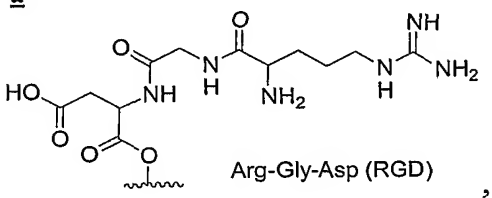
ii) R^1, R^2 and R^4 are independently H, methyl, ethyl, $-CH_2F$, $-CHF_2$, or $-CF_3$;

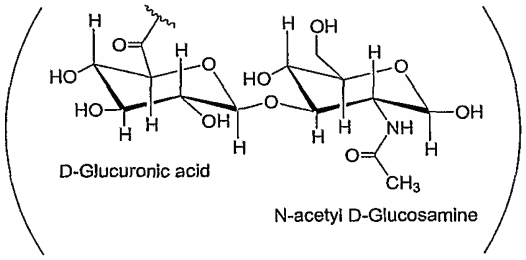
iii) R^3 is H, methyl, ethyl, $-CH(OH)CH_3$, $-CH_2OH$, or $-CH_2CH_2OH$;

iv) R^6 is -S-(unsubstituted C_{1-6} alkyl), Y,  , or  ;

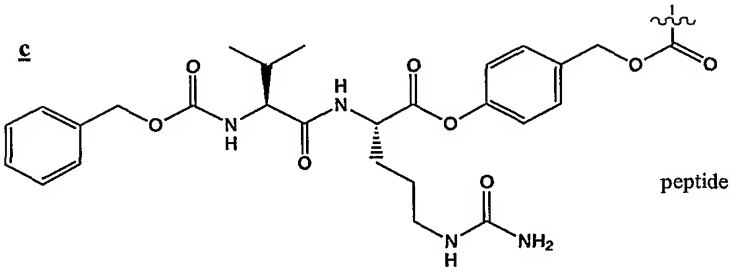
v) R^8 is H, methyl, or ethyl; and

vi) R^7 is H, methyl, ethyl, -C(O)Me, -C(O)Et, -C(O)NMe_2, -C(O)-p-OMe-phenyl, -C(O)O-phenyl, $-PO_3H_2$, $-P(O)(OMe)_2$, -P(O)(OMe)OH, -P(O)(Me)OH, -P(O)(OH)OP(O)(OH)(OH), or R^{11}; and R^{11} is selected from the group consisting of:

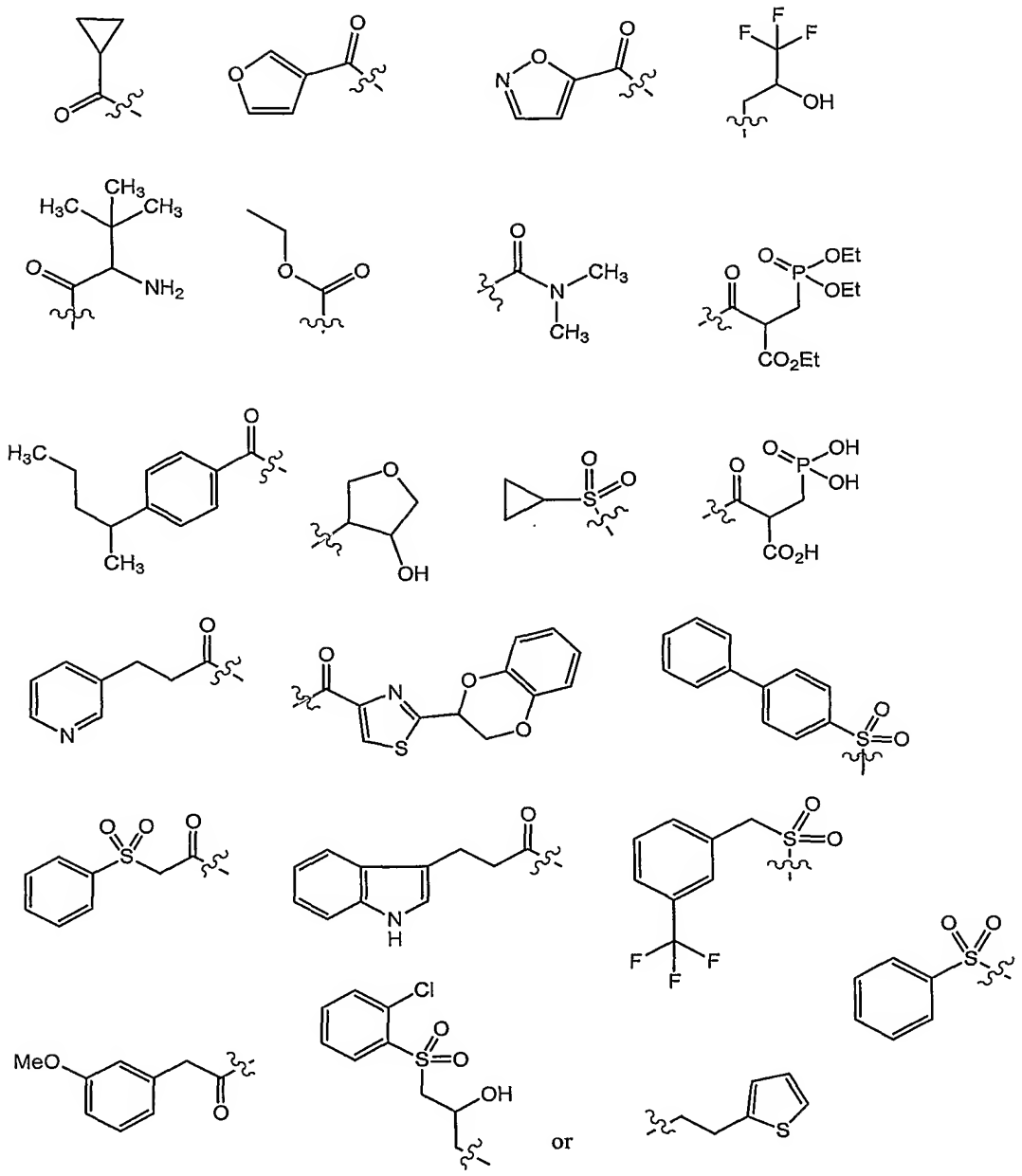
a 
Arg-Gly-Asp (RGD)

, b 
poly
D-Glucuronic acid
N-acetyl D-Glucosamine

,

c 
peptide Z-Val-Cit-PABOH

, and an antibody; or R^9 is H, methyl, ethyl, R^{11},



10. The compound of 1, wherein said compound is **III-1** to **III-18** or **IV-1** to **IV-18**.

11. A pharmaceutical composition comprising a compound of 1-10 and a pharmaceutically acceptable carrier.

12. The composition of 11, further comprising at least one chemotherapeutic agent, antiangiogenic agent or agent which modulates signaling associated with hypoxic conditions in a cell.

13. A method for inhibiting transketolase activity in a biological sample or a patient in need thereof comprising contacting said biological sample with or administering to said patient an effective amount of a compound of 1-10.

14. A method for reducing levels of ribulose/ribose-5-phosphate in a cell comprising administering to the cell an effective amount of a compound of 1-10.

15. A method for inhibiting nucleic acid synthesis in a cell comprising administering to the cell an effective amount of a compound of 1-10.

16. A method for inhibiting cell proliferation comprising administering to the cell an effective amount of a compound of 1-10.

17. A method for increasing apoptosis in a tumor cell comprising administering to the cell an effective amount of a compound of 1-10.

18. A method for reducing tumor growth in a patient comprising administering an effective amount of a compound of 1-10 or a composition of 11 to the patient in need thereof.

19. The method of 18, further comprising administering at least one chemotherapeutic agent, antiangiogenic agent or agent which modulates signaling associated with hypoxic conditions in a cell.

20. The method of 18 or 19, further comprising limiting thiamine concentrations in the patient during the administration step.

21. The method of 20, wherein the patient is on a reduced thiamine diet during the administration step.

22. The method of 21, wherein cellular thiamine concentrations are maintained at a level sufficient to avoid toxicity associated with thiamine deficiency.